

CLAIM LISTING AND STATUS

1-9. (previously canceled)

10. (currently amended) A transmission line structure comprising:

a substrate;

a transmission line suspended above said substrate, said transmission line including first and second parallel end sections and a matching section disposed at an angle between said first and second end sections, said transmission line being comprised ~~formed~~ of first and second parallel conductive beams each comprised of single crystal silicon having a first insulating layer and a second conductive metal layer disposed thereon; each of said conductive beams being suspended above said substrate, ~~each of said conductive beams~~ having first and second fixed ends that are positioned to space said beams apart from one another in said first and second end sections of said transmission line by a first predetermined distance, and ~~each of said beams also~~ having first and second bends therein defining first and second ends, respectively, of said matching section of said transmission line; and

an actuator for bending said first conductive beam toward said second conductive beam in said first and second end sections to change said first predetermined distance between said beams and thereby alter the electrical characteristics of said transmission line.

11. (hereby canceled)

12. (previously added) The transmission line structure of claim 10, wherein said matching section is disposed at a right angle relative to said first and second end sections and

said first and second conductive beams are spaced from one another in said matching section by a second predetermined distance that is maintained constant.

13. (previously added) The transmission line structure of claim 10, wherein said first and second ends of said conductive beams are fixed to a corresponding one of a plurality of anchors disposed on said substrate.

14. (previously added) The transmission line structure of claim 10, wherein said actuator is a microactuator.

15. (previously added) The transmission line structure of claim 14, wherein said microactuator is a comb-drive actuator.

16. (previously added) The transmission line structure of claim 10, wherein a second actuator is provided for bending said second beam toward said first beam.

17. (previously added) The transmission line structure of claim 10, wherein said first and second beams in said first and second end sections are bendable by said actuator into engagement with one another, whereby, said transmission line acts as an electrical switch.

18. (previously added) The transmission line structure of claim 10, wherein said transmission line comprises an adjustable phase shifter in which said first and second end sections of said transmission line comprise first and second capacitance tuning sections of said

phase shifter whose capacitance is adjustable by altering the distance between said first and second beams.

19. (currently amended) A transmission line structure comprising:

a substrate;

a transmission line suspended above said substrate, said transmission line including first and second parallel end sections and a matching section disposed at a ninety degree angle between said first and second end sections, said transmission line being comprised ~~formed~~ of first and second parallel conductive beams each comprised of single crystal silicon having a first insulating layer and a second conductive metal layer disposed thereon; each of said conductive beams being suspended above said substrate, each of said conductive beams having first and second fixed ends that are positioned to space said beams apart from one another in said first and second end sections of said transmission line by a first predetermined distance, and ~~each of said beams also~~ having first and second ninety degree opposite angled bends therein defining first and second ends, respectively, of said matching section of said transmission line; and

a first actuator for bending said first beam toward said second beam and a second actuator for bending said second beam toward said first beam to change said first predetermined distance between said beams in said first and second end sections and thereby alter the electrical characteristics of said transmission line, while maintaining said second predetermined distance between said beams in said matching section constant.

20. (hereby canceled)

21. (previously added) The transmission line structure of claim 19, wherein said first and second ends of said conductive beams are fixed to a corresponding one of a plurality of anchors disposed on said substrate.

22. (previously added) The transmission line structure of claim 19, wherein said first and second actuators are each a microactuator.

23. (previously added) The transmission line structure of claim 22, wherein each said microactuator is a comb-drive actuator.

24. (previously added) The transmission line structure of claim 19, wherein said first and second beams in said first and second end sections are bendable by said first and second actuators into engagement with one another, whereby, said transmission line acts as an electrical switch.

25. (previously added) The transmission line structure of claim 19, wherein said transmission line comprises an adjustable phase shifter in which said first and second end sections of said transmission line comprise first and second capacitance tuning sections of said phase shifter whose capacitance is adjustable by altering the distance between said first and second beams.

26. (new) A adjustable phase shifter structure comprising:

a substrate;

a transmission line suspended above said substrate, said transmission line including first and second parallel, capacitance tuning end sections and a matching section disposed at an angle between said first and second end sections, said transmission line being comprised of first and second parallel conductive beams suspended above said substrate, each of said conductive beams having first and second fixed ends that are positioned to space said beams apart from one another in said first and second end sections of said transmission line by a first predetermined distance, each of said beams also having first and second bends therein defining first and second ends, respectively, of said matching section of said transmission line; and

an actuator for bending said first conductive beam toward said second conductive beam in said first and second capacitance tuning end sections to change said first predetermined distance between said beams and thereby alter the capacitance of said phase shifter structure.

27. (new) The phase shifter structure of claim 26, wherein said matching section is disposed at a right angle relative to said first and second end sections and said first and second conductive beams are spaced from one another in said matching section by a second predetermined distance that is maintained constant.

28. (new) The phase shifter structure of claim 26, wherein said first and second ends of said conductive beams are fixed to a corresponding one of a plurality of anchors disposed on said substrate.

29. (new) The phase shifter structure of claim 26, wherein said actuator is a microactuator.

30. (new) The phase shifter structure of claim 29, wherein said microactuator is a comb-drive actuator.

31. (new) The phase shifter structure of claim 26, wherein a second actuator is provided for bending said second beam toward said first beam.

32. (new) A phase shifter structure comprising:

a substrate;

a transmission line suspended above said substrate, said transmission line including first and second parallel, capacitance tuning end sections and a matching section disposed at a ninety degree angle between said first and second end sections, said transmission line being formed of first and second parallel conductive beams suspended above said substrate, each of said conductive beams having first and second fixed ends that are positioned to space said beams apart from one another in said first and second end sections of said transmission line by a first predetermined distance, each of said beams also having first and second ninety degree opposite angled bends therein defining first and second ends, respectively, of said matching section of said transmission line; and

a first actuator for bending said first beam toward said second beam and a second actuator for bending said second beam toward said first beam to change said first predetermined distance between said beams in said first and second capacitance tuning end sections and thereby

alter the capacitance of said phase shifter structure, while maintaining said second predetermined distance between said beams in said matching section constant.

33. (new) The phase shifter structure of claim 32, wherein said first and second ends of said conductive beams are fixed to a corresponding one of a plurality of anchors disposed on said substrate.

34. (new) The phase shifter structure of claim 32, wherein said first and second actuators are each a microactuator.

35. (new) The phase shifter structure of claim 34, wherein each said microactuator is a comb-drive actuator.